

ABSTRACT OF THE DISCLOSURE

A polymer electrolyte membrane obtained by subjecting a sulfonated polyarylene membrane having an initial water content of 80-300 weight % to a hot-water treatment. A composite polymer electrolyte
5 membrane comprising a matrix made of a first sulfonated aromatic polymer having a high ion exchange capacity, and a reinforcing material constituted by a second sulfonated aromatic polymer having a low ion exchange capacity in the form of fibers or a porous membrane.